Listing of Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1-89. (Cancelled)

90. (Currently Amended) A device for developing a bore in living bone for receiving a screw-type dental implant, said device comprising:

an osteotome tool having a central axis, a lower end, an upper end, and an outer surface extending from said lower end to said upper end, said central axis being located entirely within said outer surface between said upper end and said lower end, said outer surface for compacting bone to define an elongated bore having a length that is sized to receive said screw-type dental implant, said osteotome tool has a cross-section that increases from said lower end to said upper end and depth markings between said lower end and said upper end;

a driving mechanism including means for interchangeably coupling said driving mechanism to said upper end of said osteotome tool, said driving mechanism including a piezoelectric transducer element imparting a vibrational motion to said osteotome tool; and

a power source for delivering electrical power to said driving mechanism.

91. (Previously Presented) The device of claim 90, wherein said coupling means includes means for quickly releasing and attaching said tool from said driving mechanism.

92. (Previously Presented) The device of claim 90, wherein said vibrational motion is primarily in the direction of said central axis of said osteotome tool.

93. (Previously Presented) The device of claim 90, wherein said driving mechanism includes a drive rod between said piezoelectric transducer and said coupling means.

94. (Previously Presented) The device of claim 90, wherein said driving mechanism includes a cone-shaped mechanical coupling component.

95. (Previously Presented) The device of claim 90, wherein said osteotome tool has at least one segment with a constant cross-section.

96. (Canceled)

97. (Previously Presented) The device of claim 90, wherein said coupling means is selected from the group consisting of a spring element, a pin element extending into said osteotome tool, a screw element extending into said osteotome tool, a ball-slot clamping mechanism, a ball-slide clamping mechanism, and a three jaw-chuck device.

98. (Previously Presented) A method for installing an implant in an elongated bore in a living bone, said method comprising the steps of:

providing an osteotome tool having a central axis, a lower end, an upper end, and an engaging surface between said lower and upper ends;

providing a driving mechanism including a piezoelectric transducer element capable of producing vibrational motion;

coupling said driving mechanism to said osteotome tool;

powering said driving mechanism to actuate said piezoelectric transducer element while engaging said living bone with said engaging surface to develop said elongated bore, said elongated bore being defined by bone tissue and having a known length and width dimension as defined by said tool; and

installing said implant into said elongated bore, said implant having a length corresponding to said length of said elongated bore.

99. (Previously Presented) The method of claim 98, wherein said engaging surface has a sequence of regions from said lower end to said upper end that increase in cross-sectional area.

100. (Previously Presented) The method of claim 98, wherein said tool has regions of a constant diameter.

101. (Previously Presented) The method of claim 98, wherein said piezoelectric transducer element oscillates when electrical oscillations are produced by said electrical power.

102. (Previously Presented) The method of claim 98, wherein said vibrational motion occurs along said central axis of said osteotome tool.

103. (Previously Presented) The method of claim 98, wherein said vibrational motion has a low amplitude of less than about 1.0 mm.

104. (Previously Presented) The method of claim 98, wherein said vibrational motion has a frequency of about 500 Hz.

105. (Previously Presented) The method of claim 98, wherein said vibrational motion is varied by changes to a frequency and an amplitude of electric power supplied to said piezoelectric transducer.

106. (Previously Presented) A device for developing in living bone an elongated bore that is defined by bone tissue with increased density, said device comprising:

a compaction tool having a central axis, a lower end, and upper end, and a bone engaging surface for displacing bone tissue that is initially in the area defined by said bore primarily in the radial direction with respect to said central axis, said bone-engaging surface having depth markings so as to determine a depth of insertion into said elongated bore; and

a driving mechanism including means for coupling said driving mechanism to said tool, said driving mechanism further including means for vibrationally moving said tool.

107. (Previously Presented) The device of claim 106, wherein said compaction tool is tapered from said upper end to said lower end.

108. (Previously Presented) The device of claim 106, wherein said vibrational movement is in a direction of said central axis.

109. (Previously Presented) The device of claim 106, wherein said osteotome tool has at least one segment with a constant cross-section.

110. (Currently Amended) A method for developing an elongated bore in a living bone for receiving a dental implant, said method comprising the steps of:

providing an osteotome tool having a central axis, a lower end, an upper end, and an engaging surface between said lower and upper ends;

providing a driving mechanism capable of producing reciprocating motion;

coupling said driving mechanism to said osteotome tool;

engaging said osteotome tool with said living bone, while said osteotome tool is undergoing reciprocating motion to create said elongated bore, said elongated bore having dimensions defined by dimensions of said engaging surface of said

osteotome tool, said osteotome tool simultaneously engages said living bone substantially along an entire length of said bore; and

using a power-driven mechanism to install said dental implant into said elongated bore.

111. (Previously Presented) The method of claim 110, wherein said reciprocating motion is in a direction of along said central axis.

112. (Cancelled)

113. (Previously Presented) The method of claim 110, wherein said osteotome tool is tapered from said upper end to said lower end.

114. (Previously Presented) The method of claim 110, wherein said osteotome tool incrementally compacts said living bone while developing said bore.

115. (Previously Presented) The method of claim 110, further including the step of developing a pilot hole, and said step of engaging includes inserting said tool into said pilot hole.

116. (Previously Presented) A device for developing an elongated bore in living bone, comprising:

a tool having a central axis, a lower end, and an upper end, said tool having a cutting edge at said lower end and a bone engaging surface above said cutting edge for

displacing bone tissue primarily in the radial direction with respect to said central axis, said cutting edge is configured to cut bone around a circumference of said elongated bore and maintain a substantial portion of said bone within said elongated bore, said bone engaging surface including depth markings for determining a depth of insertion into said elongate bore; and

a driving mechanism coupled to said tool and producing vibrational movement to said tool.

117. (Previously Presented) The device of claim 116, wherein said driving mechanism includes a piezoelectric device.

118. (Previously Presented) The device of claim 116, wherein said bone engaging surface has a gradually expanding region behind said cutting edge.

119. (Previously Presented) The device of claim 118, wherein said gradually expanding region is directly behind said cutting edge.

120. (Previously Presented) The device of claim 116, wherein said tool includes conduits for passing a lubricating fluid.

121. (Cancelled)

122. (Previously Presented) The device of claim 116, wherein said cutting edge is located in a generally circular configuration.

123. (Previously Presented) The device of claim 122, wherein said tool has a concave surface within said circular configuration.

124. (Previously Presented) A method for developing a bore in living bone, comprising:

creating a pilot opening at a location in said living bone where said bore is desired;

engaging a tool with a piezoelectric component, said tool having a lower cutting edge and an expanding cross-sectional region above said lower cutting edge, said tool including depth markings on an outer surface thereof for determining a depth of insertion into said bore;

inserting said cutting edge into said pilot opening of said bone;

as said tool is inserted deeper into said opening, cutting said bone with said cutting edge while simultaneously compacting said bone with said expanding cross-sectional region.

125. (Previously Presented) The method of claim 124, wherein said tool has regions of constant diameter.

126. (Previously Presented) The method of claim 124, wherein said piezoelectric component provides vibrational motion along a central axis of said tool.

127. (Previously Presented) The method of claim 126, wherein said vibrational motion has a frequency of about 500 Hz.

128. (Previously Presented) A method for developing a bore in a living bone, comprising:

providing a tool having a central axis, a cutting edge at a lowermost end and being generally perpendicular to said central axis, an engaging surface above said cutting edge for compacting said living bone, and an upper end positioned opposite of said lowermost end, said central axis extending between said lowermost end and said upper end;

providing a driving mechanism capable of producing vibrational motion along said central axis;

coupling said upper end of said driving mechanism to said tool; and

powering said driving mechanism while engaging said living bone with said cutting edge to develop said bore, said engaging occurring as said central axis is generally perpendicular to said living bone adjacent to said bore.

129. (Previously Presented) The method of claim 128, wherein said driving mechanism includes a piezoelectric device.

130. (Previously Presented) The method of claim 128, wherein said powering said driving mechanism includes applying electrical power to said piezoelectric device at a selective frequency and amplitude.

131. (Previously Presented) A dental system for developing a bore in living bone that is to receive a screw-type dental implant, said device comprising:

a screw-type dental implant;

an osteotome tool having a central axis, a cutting edge at said lowermost end, and a bone-compacting surface directly above said lowermost end for compacting bone in a radial direction with respect to said central axis, said bone-compacting surface having a generally circular cross-section such that said bone-compacting surface compacts bone around said tool and being dimensioned in length to provide said bore with a dimension for threadably receiving said screw-type dental implant;

a driving mechanism including means for interchangeably coupling said driving mechanism to said osteotome tool, said driving mechanism including a piezoelectric transducer element imparting a vibrational motion to said osteotome tool; and

a power source for delivering electrical power to said driving mechanism.

132. (Previously Presented) The dental system of claim 131, wherein said osteotome tool gradually tapers outwardly.

133. (Previously Presented) The dental system of claim 131, wherein said osteotome tool has a transverse dimension along its length that generally corresponds to a diameter of said dental implant.

134. (Previously Presented) A method for installing a dental implant into a bore in a living bone, said method comprising the steps of:

providing an osteotome tool having a central axis, a generally circular cross-section, a lower end, an upper end, and an engaging surface between said lower and upper ends;

providing a driving mechanism including a piezoelectric transducer element capable of producing vibrational motion;

coupling said driving mechanism to said osteotome tool;

powering said driving mechanism to actuate said piezoelectric transducer element;

engaging said living bone with said osteotome tool to develop said bore, said bore having a generally circular cross-section; and

screwing said dental implant into said bore.

135. (Previously Presented) The method of claim 134, wherein said engaging surface has a sequence of regions from said lower end to said upper end that increase in cross-sectional area.

136. (Previously Presented) The method of claim 134, wherein said tool has regions of a constant diameter.

137. (Currently Amended) A set of components for installing a screw-type dental implant in a bore that is defined by bone tissue with increased density, said set of components comprising:

a screw-type dental implant having an exterior surface for engaging said bone tissue ;

a compaction tool having a central axis, a lower end, and upper end, and a bone engaging surface for displacing bone tissue that is initially in the area defined by said bore primarily in the radial direction with respect to said central axis, said compaction tool having a generally circular cross section for producing a known dimension in said bore for receiving said screw-type dental implant; and

a driving mechanism including means for coupling said driving mechanism to said tool, said driving mechanism further including means for vibrationally moving said tool while in said bore; and

wherein said screw-type dental implant ~~is~~ for being threadably installed in said bore after said compaction tool creates said bore.

138. (Previously Presented) The set of components of claim 137, wherein said compaction tool is tapered from said upper end to said lower end.

139. (Previously Presented) A set of components for installing a screw-type dental implant in a bore in living bone for receiving a dental implant, comprising:

a screw-type dental implant having an exterior surface that engages said bone tissue after said tool produces said bore;

a tool having a central axis, a lower end, and an upper end, said tool having a bone engaging surface above said lower end for displacing bone tissue primarily in the radial direction with respect to said central axis, said tool having a generally circular cross-section with a transverse dimension that produces a bore having a predictable dimension for threadably receiving said screw-type dental implant; and

a driving mechanism providing vibrational movement to said tool.

140. (Previously Presented) The set of components of claim 139, wherein said driving mechanism includes a piezoelectric device.

141. (Previously Presented) The set of components of claim 139, wherein said bone engaging surface has a gradually expanding region behind said lower end.

142. (Previously Presented) The set of components of claim 139, wherein said tool is configured to maintain a substantial portion of bone acted upon by said tool within said bore.